

What is claimed is:

1. A flexible polyurethane foam obtained by mixing a raw material containing a hydroxyl compound, a polyisocyanate, a foaming agent, a foam stabilizer, and catalyst, and foaming the mixture,
5 wherein the flexible polyurethane foam has a molar ratio of urea bond relative to urethane bond of 7 or less and more than 0.2, and said hydroxyl compound contains 100 parts by weight of polyether polyol and 0.5-20 parts by weight of a low-molecular weight hydroxyl compound having a molecular weight lower than
10 that of the polyether polyol.

2. The flexible polyurethane foam as claimed in claim 1, wherein the molar ratio of the urethane bond / urea bond is calculated by dividing a number of moles of the urethane bond by a number of
15 moles of the urea bond,

wherein said numbers are defined by the following equations:

the number of moles of the urethane bond = $(fa \times A) / (M_{wa} \times fc^2)$; and

the number of moles of the urea bond = $B / 18$,

20 wherein

A = amount of the hydroxyl compound in parts by weight;

B = amount of water in parts by weight;

fa = number of functional groups of the hydroxyl compound;

M_{wa} = molecular weight of the hydroxyl compound; and

25 fc = number of functional groups of in a polyisocyanate.

3. The flexible polyurethane foam as claimed in claim 1, wherein said foam stabilizer is a silicone based stabilizer modified with a polyether, and has at least one reactive group.

4. The flexible polyurethane foam as claimed in claim 1, wherein
said molar ratio of the urea bond relative to the urethane bond
is 4 or less.

5 5. The flexible polyurethane foam as claimed in claim 1, wherein
said foaming agent is water.

6. The flexible polyurethane foam as claimed in claim 5, wherein
an amount of water compounded is 1.0 to 6.0 parts by weight
10 relative to 100 parts by weight of the polyether polyol.

7. The flexible polyurethane foam as claimed in claim 1, wherein
the flexible polyurethane foam is a material for an edge member
of a diaphragm of a speaker.

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8. The flexible polyurethane foam as claimed in claim 7, wherein
said flexible polyurethane foam has a density of 20 to 40 kg/m³.

9. The flexible polyurethane foam as claimed in claim 2, wherein
20 the polyether polyol has a molecular weight from 3000 to 6000.

10. An edge member of a diaphragm of a speaker made of the
flexible polyurethane foam as claimed in claim 1.

25 11. The flexible polyurethane foam as claimed in claim 9, wherein
said low-molecular weight hydroxyl compound is selected from the
group consisting of ethylene glycol, propylene glycol, diethylene
glycol, butanediol, glycerin, trimethylolpropane,
triethylolpropane, trimethylolethane, triethylolethane,
30 pentaerythritol and 1,2,6-hexanetriol.

12. The flexible polyurethane foam as claimed in claim 9, wherein said low-molecular weight hydroxyl compound has an average molecular weight of about 134.

5 13. The flexible polyurethane foam as claimed in claim 9, wherein said polyurethane foam has heat and humidity aging characteristics of at least 85% evaluated based on a retention of a tensile strength of the flexible polyurethane foam which was kept in an autoclave at a temperature of 115 °C for 24 hours.

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14. The flexible polyurethane foam as claimed in claim 1, further comprising a cross-linking agent.